

REMARKS

Claims 1-26 are pending in the present application. In the Office Action mailed March 9, 2007, the Examiner rejected claims 7-12, 25 and 26 under 35 U.S.C. §101 because they are directed to non-statutory subject matter. The Examiner next rejected claims 1-4, 7-11, 13-16, 18-22, 25 and 26 under 35 U.S.C. §102(b) as being anticipated by Parker et al. (Improved Efficiency in Double-Inversion Fast Spin-Echo Imaging, *Magnetic Resonance in Medicine* 47:1017-1021, May 2002) -- hereinafter Parker. Claims 5, 6, 12, 17, 23, and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Parker in view of Miyazaki (USP 6,144,201).

Before addressing the Examiner's remarks in the Office Action, Applicant notes that, on the "Office Action Summary" page of the Office Action, the box objecting to the drawings was checked. However, Applicant believes that such indication is a typographical error since the Examiner indicated that the prior objection to the drawings is withdrawn (see page 3). Applicant requests clarification if such is not the case.

The Examiner suggested, for the purpose of clarity, that paragraphs 23 and 24 of the specification be amended. Applicant has amended paragraphs 23 and 24 to recite consistent terminology as suggested by the Examiner.

The Examiner rejected claims 7-12 and 25-26 under 35 U.S.C. §101 as being directed to a non-statutory subject matter. Applicant has amended claims 7-8, 11-12 and 25-26 to be directed to a computer readable storage medium. Additionally, Applicant has canceled claims 9 and 10. Accordingly, Applicant believes that the Examiner's rejection under 101 has been overcome and requests withdrawal thereof.

The Examiner next rejected claims 1-4, 7-11, 13-16, 18-22, 25 and 26 under 35 U.S.C. §102(b) as being anticipated by Parker. Applicant has amended claims 1, 7, 13, 19, and 25 to more clearly define the invention.

The Examiner stated that Parker discloses "acquiring data for two slices R-R interval (Fig. 1d, p.1017 col. 2)." *Office Action, 03/09/07*, p. 4. Parker states that "[i]n our modification two or more slices are selectively reinverted with each inversion time, but data is acquired from only one slice." In figure 1d, Parker shows a schematic timing diagram for a four-slice interleaved double inversion pulse sequence in which only one slice is selected for data acquisition for each respective non-selective inversion/slice selective inversion pulse group.

Claim 1 has been amended to call for, in part, acquiring data of at least two slices for each application of the re-inversion pulse in the successive R-R intervals. Parker fails to teach or

suggest that called for in claim 1. That is, Parker discloses acquiring data from only a single slice for each application of a slice selective inversion pulse.

Claim 7 has been amended to call for, in part, a slice-selective re-inversion pulse applicable to the slab of slices applied after each non-selective inversion pulse and a series of spin echo readout excitation pulses applicable to the slab of slices such that MR data with black blood contrast is acquired of a first set of at least two slices of the slab during a first R-R interval after application of a respective single slice-selective re-inversion pulse and of a second set of at least two slices of the slab during a next R-R interval after application of a respective single slice-selective re-inversion pulse. Claim 13 has been amended to call for, in part, a computer programmed to apply a pulse sequence having a first and a second inversion pulse during each heartbeat of a successive train of heartbeats and a series of readout excitation pulses during each heartbeat of the successive train of heartbeats such that at least two slices of data with black blood contrast are acquired for each application of one of the first and the second inversion pulses during each heartbeat of the successive train of heartbeats. Claim 19 has been amended to call for, in part, acquisition of MR data for at least two slices in the slab for each slice-selective re-inversion RF pulse in each R-R interval. Claim 25 has been amended to call for, in part, a set of excitation pulses to be applied in each R-R interval such that MR data may be acquired for at least two slices in a slab during each R-R interval and for each slice-selective re-inversion pulse.

As explained above, Parker discloses a non-selective inversion/slice selective inversion pulse group to select only a single slice for data acquisition. Parker fails to teach or suggest that called for in claims 7, 13, 19, and 25.

Accordingly, that which is called for in claims 1, 7, 13, 19, and 25 is not shown, disclosed, taught, or suggested in the art of record. As such, Applicant believes claims 1, 7, 13, 19, and 25, and the claims which depend therefrom, are patentably distinct from the art of record.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-8 and 11-26.

A Petition for Extension of Time is being filed via EFS-Web concurrently herewith.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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General Authorization and Extension of Time

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-0845. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 07-0845. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 07-0845. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 07-0845.

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